Claim Amendments

1. (original) An automated method for determining whether to allow a portion of software stored in a computer-readable memory to access to a portion of a nonvolatile memory, comprising:

(a) receiving a reference to said portion of software wishing to receive access to said nonvolatile memory portion;

(b) computing a cryptographic hash of said software portion;

(c) comparing said computed cryptographic hash with a value stored in said nonvolatile memory;

(d) if said computed cryptographic hash matches said stored value, executing said software portion with access to said nonvolatile memory portion; and

(e) if said computed cryptographic hash does not match said stored value, not allowing said software portion to access said nonvolatile memory.

2. (new) A digital optical medium containing compressed digital audiovisual content with protections against unauthorized copying, comprising:

(a) a digital signature authenticating at least an identifier of said optical medium;

(b) a digitally-signed list identifying at least one other medium that is revoked;

(c) compressed digital audiovisual content that is encrypted using broadcast encryption, whereby:

(i) each of a plurality of authorized playback devices has cryptographic keys sufficient for decrypting said audiovisual content, and

(ii) each of a plurality of revoked playback devices do not have keys sufficient for decrypting said audiovisual content;

(d) a plurality of versions for each of a plurality of portions of said compressed digital audiovisual content, where:

(i) said versions for each portion may be distinguished from each other in pirated recordings of said audiovisual content;

(ii) said versions are encrypted with different keys, such that each of said authorized playback devices is capable of deciphering at least one, but not all, of said versions for each of said portions; and

(iii) the combination of said portions decipherable by a given player may be used to identify said player; and

(e) logic defining an interface usable to interact with a user and to control playback of said audiovisual content.

3. (new) The medium of claim 2 further comprising program logic for an interpreter of a Turing-complete language, where:

(i) said program logic is configured to perform a plurality of security checks; and

(ii) said program logic is configured to permit playback of said audiovisual content provided that said security checks are successful.

4. (new) The medium of claim 3 where said program logic is configured to invoke at least one cryptographic operation supported by at least one of said authorized playback devices.

5. (new) The medium of claim 3 where said program logic is configured to perform at least one operation necessary for decryption of said audiovisual content by at least one said authorized playback device.

6. (new) The medium of claim 2 wherein a subset of said authorized playback devices encompass a plurality of models, each model having a model-specific vulnerability, and further comprising program logic which, when executed by a device of each said vulnerable model, is configured to:

(a) mitigate said vulnerability affecting said vulnerable playback device; and

(b) perform at least one operation necessary for said vulnerable playback device to decrypt said audiovisual content.

7. (new) The medium of claim 6 where said program logic includes executable code for a Turing-complete virtual machine.

8 (new) The medium of claim 6 where said operation necessary to decrypt includes updating a cryptographic key contained in said playback device.

9. (new) The medium of claim 6 where said program logic for mitigating includes native executable code configured to detect whether the security of a vulnerable device has been compromised.

10. (new) The medium of claim 6 where said program logic for mitigating includes native executable code configured to correct a vulnerability in a vulnerable device.

11. (new) The medium of claim 6 where said program logic for mitigating includes a firmware upgrade for correcting at least one vulnerability.

12. (new) A device for securely playing digital audiovisual content, said audiovisual content including a plurality of regions each having multiple versions thereof, comprising:

(a) a media drive including a laser for use in reading data from rotating optical media;

(b) a nonvolatile memory containing:

(i) a set of cryptographic player keys for use with a broadcast encryption system, and

(ii) identifiers of revoked media;

(c) a bulk decryption module for decrypting encrypted audiovisual content from said media;

(d) program logic configured to:

(i) select a version of each said region;

(ii) decrypt said selected version, whereby a combination of said versions selected in the course of playing said media uniquely identifies said device;

(e) at least one codec for decompressing said audiovisual content; and

(f) media verification logic configured to verify:

(i) whether valid digital signatures contained on said media authenticate said media, and

(ii) whether said media are identified as revoked in said nonvolatile memory.

13. (new) The device of claim 12 further comprising an interpreter for a Turing-complete language, where said interpreter is configured to obtain said program logic from said drive and execute said program logic.

14. (new) The device of claim 12 further comprising means for reducing the output quality of said audiovisual content if a security requirement specified by said medium for high-quality output is not met.

15. (new) The device of claim 12 wherein:

(a) said combination of versions selected during the course of playback of any one said medium uniquely does not uniquely identify said playback device; and

(b) said combination of versions selected during the course of playback of a plurality of said media does uniquely identify said playback device.

16. (new) A method for playing encrypted digital audiovisual content from a digital medium, comprising:

(a) verifying a digital signature authenticating said medium;

(b) retrieving at least one player key from a nonvolatile memory;

(c) using said at least one player key with a broadcast encryption system;

(d) using a result of said broadcast encryption system to decrypt at least a portion of said audiovisual content;

(e) reading program logic for a Turing-complete interpreted language from said optical medium;

(f) using an interpreter to execute said program logic, where said interpreter performs operations specified in said program logic to respond to selections from a user;

(g) selecting a variant from a plurality of variants for each of a plurality of portions of said audiovisual content, where:

(i) said player is capable of decrypting said selected variant; and

(ii) said player lacks at least one cryptographic key required to decrypt at least one non-selected variant for each said portion; and

(h) decrypting each said selected variant.

17. (new) The method of claim 16 where said user selections include button presses on a remote control.

18. (new) The method of claim 16 where said program logic directs said player to perform an AES block cipher operation via said interpreter.